

IN THE CLAIMS:

Claims 1-107 (canceled).

108. (Previously Presented) A die set for forming an at least partially metal blank into a structural component, said die set comprising a shape imparting shell formed from a low permeability, rigid material, said shell being at least partially in the form of first and a second shell portions each of which includes an inner surface defining said predetermined shape, an outer support and mounting surface and spaced lateral edges which edges define a parting plane between said two shell portions when said two shell portions are brought together to at least partially form said shell; providing a first die member with an upper side and a lower side and having a support framework to carry said first shell portion mounted in said framework by a first compression force transmitting material with said laterally spaced edges of said first shell portion facing outwardly from said lower side of said first die member, said first compression force transmitting material having different physical properties from said first shell portion; and, providing a second die member with an upper side and a lower side and having a support framework for carrying said second shell portion mounted in said framework by a second compression force transmitting material with said laterally spaced edges of said second shell portion facing outwardly from said upper side of said second die member, said second compression force transmitting material having different physical properties from said second shell portion; at least one of said die members being movable to capture said blank in said shape imparting shell.

109. (Previously Presented) The die set as defined in claim 108, wherein said rigid material includes ceramic having a high hardness.

110. (Previously Presented) The die set as defined in claim 108, wherein said rigid material includes fused silica.

111. (Previously Presented) The die set as defined in claim 108, wherein said rigid material includes fused silica impregnated with nitrogen.

112. (Previously Presented) The die set as defined in claim 108, wherein said rigid material includes a material selected from the class consisting of silicon nitride, silicon carbide, beryllium oxide, boron oxide, and zirconium.

113. (Previously Presented) The die set as defined in claim 108, wherein at least one of said first and second compression force transmitting materials include castable ceramic having a strength and hardness substantially less than said rigid material of at least one of said first and second half shells.

114. (Previously Presented) The die set as defined in claim 108, wherein said framework is machined metal.

115. (Previously Presented) The die set as defined in claim 114, wherein said machined metal is aluminum.

116. (Previously Presented) The die set as defined in claim 108, wherein said predetermined shape having an axial profile.

117. (Previously Presented) The die set as defined in claim 108, wherein at least one of said die members includes at least one induction coil.

118. (Previously Presented) The die set as defined in claim 117, wherein at least one of said die members includes a plurality of induction coils spaced axially along said shell.

119. (Previously Presented) The die set as defined in claim 118, wherein said plurality of induction coils are nonuniformly spaced axially along said shell.

120. (Previously Presented) The die set as defined in claim 118, wherein said plurality of induction coils are nonuniformly spaced from at least one of said first and second shell portions.

121. (Previously Presented) The die set as defined in claim 118, wherein said plurality of induction coils have varying flux field permeabilities.

122. (Previously Presented) The die set as defined in claim 108, wherein at least one of said die members includes a flux concentrator.

123. (Previously Presented) The die set as defined in claim 108, wherein at least one of said die members includes a Faraday shield.

124. (Previously Presented) The die set as defined in claim 108, including a quench station to at least partially quench said structural component at least partially along a length of said structural component.

125. (Previously Presented) The die set as defined in claim 108, including a pressure sensor to sense the pressure of said fluid in said shell and a pressure controller to at least partially control the gas pressure of the gas forced into said blank.

126. (Previously Presented) A die set for forming an elongated metal blank with at least two ends into a structural component, said die set comprises a shape imparting shell formed from a low permeability, rigid material that is at least partially supported in a non-magnetic material, said shell including an inner surface defining a predetermined shape and divided into at least two portions, said low permeability, rigid material of said shell having different physical properties from said supporting non-magnetic material; providing a first die member carrying a first portion of said shell mounted in said supporting non-magnetic material; and, providing a second die member carrying a second portion of said shell mounted in said supporting non-magnetic material; whereby said first die member is movable relative to said second die member to capture said metal blank in said shape imparting shell.

127. (Previously Presented) The die set as defined in claim 126, wherein said supporting

non-magnetic material has a strength and hardness that is different from said low permeability, rigid material of said shell.

128. (Previously Presented) The die set as defined in claim 127, wherein said supporting non-magnetic material has a strength and hardness substantially less than said low permeability, rigid material of said shell.

129. (Previously Presented) The die set as defined in claim 126, wherein said low permeability, rigid material includes ceramic having a high hardness.

130. (Previously Presented) The die set as defined in claim 126, wherein said low permeability, rigid material includes fused silica.

131. (Previously Presented) The die set as defined in claim 126, wherein said rigid material includes fused silica impregnated with nitrogen.

132. (Previously Presented) The die set as defined in claim 126, wherein said low permeability, rigid material includes a material selected from the class consisting of silicon nitride, silicon carbide, beryllium oxide, boron oxide, and zirconium.

133. (Previously Presented) The die set as defined in claim 126, wherein at least one of said die members has a framework that includes machined metal.

134. (Previously Presented) The die set as defined in claim 133, wherein said machined metal is aluminum.

135. (Previously Presented) The die set as defined in claim 126, including at least one heating element positioned adjacent said shell.

136. (Previously Presented) The die set as defined in claim 135, wherein said heating element includes a plurality of conductors axially spaced along said shell.

137. (Previously Presented) The die set as defined in claim 135, wherein said plurality of conductors are positioned at different distances from said shell.

138. (Previously Presented) The die set as defined in claim 135, wherein said plurality of conductors are spaced a different distance from one another.

139. (Previously Presented) The die set as defined in claim 135, wherein said plurality of conductors have varying flux field permeabilities.

140. (Previously Presented) The die set as defined in claim 126, including a flux concentrator.

141. (Previously Presented) The die set as defined in claim 126, including a Faraday shield.

142. (Previously Presented) The die set as defined in claim 126, including a quench station to at least partially quench said structural component at least partially along a length of said structural component.

143. (Previously Presented) The die set as defined in claim 126, including a pressure sensor to sense the pressure of said fluid in said shell and a pressure controller to at least partially control the gas pressure of the gas forced into said blank.